

**“TOUCH-TONE”<sup>®</sup> SIGNALING RECEIVERS**  
**TYPE H**  
**EQUIPMENT DESIGN REQUIREMENTS**  
**COMMON SYSTEMS**

**1. GENERAL**

**SCOPE**

**1.01** This specification, together with the supplementary information listed herein, covers the equipment design requirements for the framework, assembly, equipment, and circuits to be used in the engineering, manufacture, and installation of the TOUCH-TONE type H receiver.

**1.02** This specification is reissued to rate list 1 of J99388C Mfr Disc. and replace it with list 4. This change is in accordance with SD-1C650-01, Issue 3D.

**DESCRIPTION**

**1.03** The TOUCH-TONE calling receiver is designed to be bridged across the input terminals of a customer dial pulse receiver, originating register, or equivalent common dial pulse equipment, without interfering with normal operation of dc dial pulses. The receiver is designed to respond to two simultaneous voice frequency tones, one from a high and one from a low group of frequencies, generated by the operation of a button on a TOUCH-TONE calling subscriber set or similar device. The use of two widely separated frequencies for each digit provides for various operating features and permits less severe design requirements for the subscriber set tone oscillator. The assignment of the signaling frequencies is as follows:

LOW GROUP (HZ)		HIGH GROUP (HZ)	
L1	697	H1	1209
L2	770	H2	1336
L3	852	H3	1477
L4	941	H4	1633

**1.04** The frequency combinations for indicating individual digits are shown below:

DIGIT	FREQUENCY	DIGIT	FREQUENCY
1	L1-H1	7	L3-H1
2	L1-H2	8	L3-H2
3	L1-H3	9	L3-H3
4	L2-H1	*	L4-H1
5	L2-H2	0	L4-H2
6	L2-H3	#	L4-H3

The paired frequencies L1-H4 through L4-H4 are used for special signals.

**1.05** There are three versions of the TOUCH-TONE type H receivers. All versions are composed of the same basic receiving unit connected to an appropriate interface circuit. The interface circuits convert the logic outputs of the receiving unit to signals for use in the central office switching system. Each receiving unit includes a converting circuit to convert -48 volt battery to  $\pm 6$  volts and 5 volts required for the receiver integrated circuits.

**J99388A Type H1 TOUCH-TONE Receiver**

**1.06** The type H1 receiver replaces the type A3 receiver (J99289A and B) in electromechanical central offices. Physically, the type H1 receiver consists of two 80-type apparatus mountings and four D4A terminal strips mounted on a 4- by 23-inch mounting plate. This provides mounting space for four receivers which consist of five JD-type circuits each (JD30, 31, 40, 49, and 50). The type A3 receiver provided two receivers in 6- by 23-inch mounting.

**NOTICE**

Not for use or disclosure outside the Bell System except under written agreement

**J99388B Type H2 TOUCH-TONE Receiver**

**1.07** The type H2 receiver replaces the type B1 receiver. The same equipment arrangement is used in the type H2 receiver as in the H1. Four receivers mount in a 4- by 23-inch mounting plate and each receiver consists of four JD-type circuit packs (JD30, 31, 40, and 41). The H2 receiver essentially doubles the number of receivers in the same space required for two type B1 receivers.

**J99388C Type H3 TOUCH-TONE Receiver**

**1.08** The type H3 receiver is for use in the cost and size reduced trunk and service circuits of No. 1 ESS offices. The unit occupies 8 inches of vertical mounting space and is 36 inches wide. Up to 16 type H3 receivers (JD30, 31, and 32 circuit packs), associated ferrod sensor circuit packs (PL4), and dc-to-dc converters (228A) can be mounted in this unit.

**Power**

**1.09** Each of the TOUCH-TONE type H receivers includes the apparatus required to convert -48 volts to  $\pm 6$  volts and +5 volts required by the integrated circuits. Current drain for the H1 and H2 receivers is 0.17 and 0.08 ampere per receiver, respectively. The current drain for the H3 receiver is 0.15 ampere per each dc-to-dc converter of which there may be four maximum.

**2. SUPPLEMENTARY INFORMATION**

801-000-000—Numerical Index—Common Systems  
 800-020-001—Checking List—Equipment Design Requirements  
 800-600-000—Checking List—General Equipment Requirements  
 J1A033DD—820-031-150—Receiver—Type B1  
 J1A088—820-031-153—Combined Miscellaneous Trunk Frames—No. 1 and No. 1A ESS  
 J27955—819-401-153—Pulse Counting Equipment Units for Originating and Incoming Register  
 J27962—819-403-150—Crossbar System No. 5—Originating Register Frame  
 J99289—801-621-151—Receiver—Type A3

**3. DRAWINGS**

**3.01** WE J drawings should be ordered by referring to the prefix and base number and requesting the current dash (-) number.

**Circuit**

SD-1C650-01—TOUCH-TONE Calling Receiving Circuit—Type H

**Equipment**

J99388A-( )—TOUCH-TONE Calling Receivers Unit for Electromechanical Offices—Type H1  
 J99388B-( )—TOUCH-TONE Calling Receivers Unit for No. 2 and 3 ESS Offices—Type H2  
 J99388C-( )—TOUCH-TONE Calling Receivers Unit for No. 1 ESS Offices—Type H3

**4. EQUIPMENT****J99388A—AT&TCo Std—TOUCH-TONE Calling Receivers Unit for Electromechanical Offices—Type H1**

**List 1**—Framework, assembly, connectors, and wiring required for one TOUCH-TONE receiver unit type H1. Provides mounting space for up to four TOUCH-TONE receivers per Fig. 5, SD-1C650-01.

**List 2**—Apparatus required in addition to list 1 to provide circuit packs for one TOUCH-TONE calling receiver for electromechanical offices type H1, per Fig. 5, SD-1C650-01. A maximum of four lists 2 may be ordered for each list 1. (See Note A.)

**Note**

A. One list 2 comprises a full complement of circuit packs as follows:

1—JD30  
 1—JD31  
 1—JD40  
 1—JD49  
 1—JD50

**J99388B—AT&TCo Std—TOUCH-TONE Calling Receivers Unit for No. 2 and 3 ESS Offices—Type H2**

**List 1**—Framework, assembly, connectors, and wiring required for one TOUCH-TONE receiver unit type H2. Provides mounting space for up to four TOUCH-TONE receivers per Fig. 4, SD-1C650-01.

**List 2**—Apparatus required in addition to list 1 to provide circuit packs for one TOUCH-TONE receiver for No. 2 and 3 ESS offices type H2, per Fig. 4, SD-1C650-01. A maximum of four lists 2 may be ordered for each list 1. (See Note A.)

TOUCH-TONE calling receiver unit for No. 1 ESS office type H3. Provides mounting space for 16 receivers and four 228A dc-to-dc converters, per Fig. 1, 3, and 6, and option R of SD-1C650-01.

**Note**

**Notes**

A. One list 2 comprises a full complement of circuit packs as follows:

A. One list 2 comprises a full complement of circuit packs as follows:

- 1—JD30
- 1—JD31
- 1—JD40
- 1—JD41

- 1—JD30
- 1—JD31
- 1—JD32

**J99388C—AT&T Co Std—TOUCH-TONE Calling Receivers Unit for No. 1 ESS Offices—Type H3**

B. The dc-to-dc converter unit is the 228A.

**List 2**—Apparatus required in addition to list 4 to provide circuit packs for one TOUCH-TONE calling receiver for No. 1 ESS offices type H3, per Fig. 1 of SD-1C650-01. A maximum of 16 lists 2 may be ordered for each list 4. (See Note A.)

**5. GENERAL NOTES AND INDEXES**

**List 3**—De-to-dc converters required in addition to list 1 for each four type H3 TOUCH-TONE receivers, per Fig. 1 of SD-1C650-01. A maximum of four lists 3 may be ordered for each list 4. (See Note B.)

**List of A&M Only and Mfr Disc. Equipment**

**List 4**—Framework, assembly, connectors, wiring, and four PL4 circuit packs required for one

EQUIPMENT	RATING	DETAILS LAST SHOWN IN ISSUE	REPLACING EQUIPMENT
J99388C,L1	Mfr Disc.	1	J99388C,L4

The above equipment has been replaced as indicated. Where A&M Only items appear, the issue numbers shown are those of the issue in which the rating was first applied.